What is claimed is:

1. A method for recording multiple magnetic levels on a magnetic recording medium comprising:

providing a magnetic recording medium having a substrate and a plurality of spaced-apart magnetic islands arranged on the substrate, each island comprising at least two stacked magnetic cells and a nonmagnetic spacer layer between said at least two cells, each cell in an island being a single magnetic domain having a magnetic moment oriented in one of two opposite directions substantially perpendicular to the substrate, the cell closest to the substrate in each of the islands having a coercivity greater than the other cells in the islands;

applying to an island a magnetic field greater than the coercivity of the cell farthest from the substrate to switch the orientation of the magnetic moment of said farthest cell in that island without switching the orientation of the magnetic moment of the cell closest to the substrate in that island; and

applying to an island said magnetic field while heating that island to switch the orientations of the magnetic moments of all the cells in that island.

2. The method of claim 1 wherein providing the magnetic recording medium comprises providing a magnetic recording disk having the magnetic islands arranged on the substrate in generally concentric tracks.

3. The method of claim 1 further comprising providing an inductive write head and wherein applying the magnetic field comprises applying a write current in one of two directions to thereby generate said magnetic field in one of two directions.

4. The method of claim 3 wherein the head is a longitudinal inductive write head and wherein applying the magnetic field comprises applying a fringe field oriented generally perpendicularly to the substrate.

5. The method of claim 3 wherein the head is a perpendicular inductive write head and wherein applying the magnetic field comprises applying a field oriented generally perpendicularly to the substrate.

6. The method of claim 1 wherein heating the island comprises providing an electrically resistive heater adjacent the inductive write head and applying electrical current to the heater.